

Oxycodone

Oxycodone is an opioid receptor agonist indicated for refractory moderate to severe pain. Its side effects include respiratory depression, constipation, and CNS depression. Prior to starting long-term treatment, patients should be counseled on the risk of addiction. In acute overdose situations, naloxone can be used to reverse oxycodone-mediated toxicity.



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Mechanism of Action

Opioid Receptor Agonist

Poppy-droid Receptor Dragonist

Oxycodone is a moderately strong agonist at opioid receptors. These receptors produce analgesic effects through inhibition of calcium influx in presynaptic nerve terminals. Without intracellular calcium, vesicles containing neurotransmitters cannot release into the synaptic cleft. Additionally, opioid receptor stimulation opens post-synaptic potassium channels resulting in potassium efflux, hyperpolarization, and decreased signal transmission.

Indication

Refractory Pain

Reflective Pain-bolts

Oxycodone is indicated for refractory moderate to severe pain. This drug can be used for acute or chronic pain. This drug should be considered when non-opioid pain medications either fail or are deemed insufficient to achieve adequate pain control.

Side Effects

Respiratory Depression

Deflated Lungs

Due to oxycodone's inhibitory effect on the medullary respiratory center, it can cause respiratory depression. This can potentially lead to hypoxia, and patients should be advised not to take more than their prescribed dose. Over time, patients will develop a tolerance to this adverse effect.

Constipation

Corked Con-toilet

Constipation is a commonly experienced side effect of opioid analgesics. Inhibition of neuronal action potentials in the enteric plexuses of the GI tract will slow down intestinal motility, leading to increased water reabsorption, hardening of the stool, and constipation. Patients can be given stool softeners concurrently to ensure regular bowel movements. Patients will not develop a tolerance to this over time.

CNS Depression

Deflated CNS-brain

CNS Depression is a potential side effect of oxycodone, especially at higher doses. The inhibition of nociceptive neuronal firing is not totally specific and may inhibit neurons globally as well. Patients on higher doses can feel sedated and should be advised against operating machinery or vehicles.

Considerations

Addiction

Addict in Attic

Opioids have a high potential for addiction and misuse. Their analgesic and sedating effect may be used to cope with unwanted emotions or situations, thus driving a psychological addiction. Over time, and with repeated exposure, patients may develop a physical dependence on these medications. Upon cessation of the medication, patients may experience hypersensitivity, agitation, anxiety, excessive lacrimation, sweating, piloerection (cold-turkey), and yawning. Patients should be counseled on the potential consequences of this drug before beginning long-term therapy.

Naloxone

Nail-lock

Patients who present with acute opioid toxicity should be administered naloxone. Patients with acute opioid toxicity may present with severe respiratory depression with hypoxia, loss of consciousness, and miosis. Naloxone injection or nasal spray will act immediately to reverse the effects of opioids, sometimes immediately inducing withdrawal symptoms.